| Preface  |
|--|
| DARIO BINI (Pisa, Italy) AND VICTOR PAN (Bronx, New York) Improved Parallel Computations With Toeplitz-like and Hankel-like Matrices   |
| ADAM W. BOJANCZYK (Ithaca, New York), JAMES G. NACY (Dallas, Texas), AND ROBERT J. PLEMMONS (Winston-Salem, North Carolina) Block RLS Using Row Householder Reflections                        |
| STEPHEN BOYD (Stanford, California) AND LAURENT EL GHAOUI (Paris, France)  Method of Centers for Minimizing Generalized Eigenvalues  |
| RALPH BYERS (Lawrence, Kansas) AND N. K. NICHOLS (Reading, United Kingdom)  On the Stability Radius of a Generalized State-Space System  |
| BISWA NATH DATTA AND FERNANDO RINCÓN (De Kalb, Illinois) Feedback Stabilization of a Second-Order System: A Nonmodal Approach  |
| Bart De Moor (Leuven, Belgium) Structured Total Least Squares and $L_2$ Approximation Problems   |
| LUDWIG ELSNER AND CHUNYANG HE (Bielefeld, Deutschland)  Perturbation and Interlace Theorems for the Unitary  Eigenvalue Problem  |
| MICHAEL K. H. FAN (Atlanta, Georgia) A Quadratically Convergent Local Algorithm on Minimizing the Largest Eigenvalue of a Symmetric Matrix   |
| ROLAND W. FREUND (Murray Hill, New Jersey) AND HONGYUAN ZHA (University Park, Pennsylvania) Formally Biorthogonal Polynomials and a Look-ahead Levinson Algorithm for General Toeplitz Systems |
| MEI GAO AND MICHAEL NEUMANN (Storrs, Connecticut) A Global Minimum Search Algorithm for Estimating the Distance to Uncontrollability   |
| MARTIN H. GUTKNECHT (Zurich, Switzerland) Stable Row Recurrences for the Padé Table and Generically Superfast Lookahead Solvers for Non-Hermitian Toeplitz Systems                             |
| A. Scottedward Hodel (Auburn, Alabama)  Computation of System Zeros With Balancing   |

| W. W. Lin (Hsin-Chu, Taiwan) and S. S. You (Chung-Li, Taiwan) A Symplectic Acceleration Method for the Solution of the Algebraic Riccati Equation on a Parallel                              | 7  |
|--|----|
| Computer   |    |
| ALEXANDER N. MALYSHEV (Novosibirsk, Russia) Parallel Algorithm for Solving Some Spectral Problems of Linear Algebra  | 9  |
| PRADEEP MISRA (Dayton, Ohio) AND THULASINATH MANICKAM (Kingston, Rhode Island) Balanced Realization of Separable-Denominator Multidimensional Systems  | 21 |
| MARC MOONEN (Heverlee, Belgium), PAUL VAN DOOREN (Urbana, Illinois), AND FILIEP VANPOUCKE (Heverlee, Belgium) On the QR Algorithm and Updating the SVD and the URV Decomposition in Parallel | 19 |
| W. H. L. NEVEN (Emmeloord, the Netherlands) AND C. PRAAGMAN (Groningen, the Netherlands)  Column Reduction of Polynomial Matrices  | 36 |
| R. V. PATEL (Montreal, Quebec, Canada) On Computing the Eigenvalues of a Symplectic Pencil   | 9] |
| VASSILIS SYRMOS (Honolulu, Hawaii) AND PETR ZAGALAK<br>(Prague, Czechoslovakia)<br>Computing Normal External Descriptions and Feedback Design  | 13 |
| DAVID H. WOOD (Newark, Delaware) Product Rules for the Displacement of Near-Toeplitz Matrices  | 4] |
| DRAGAN ŽIGIĆ, LAYNE T. WATSON, AND CHRISTOPHER BEATTIE (Blacksburg, Virginia) Contragredient Transformations Applied to the Optimal Projection Equations                                     | 68 |
| AUTHOR INDEX   | 7  |

